

REMARKS

Petition for Extension of Time Under 37 CFR 1.136(a)

It is hereby requested that the term to respond to the Examiner's Action of July 24, 2007 be extended three months, from October 24, 2007 to January 24, 2008.

Authorization to charge a Credit Card is given to cover the extension fee. The Commissioner is hereby authorized to charge any additional fees associated with this communication to Deposit Account No. 19-5425.

In the Office Action, the Examiner indicated that claims 1 through 34 are pending in the application, the Examiner objected to claims 7, 24 and 25, and rejected claims 1-6, 8-23, and 26-34.

The §112 Rejections

On pages 2 and 3 of the Office Action, the Examiner has made various rejections of claims 8-13, 18, 22-23, 26 and 28-33 under 35 U.S.C. §112, second paragraph, as being indefinite. Applicant has amended the claims to overcome these rejections. Additional amendments have been made to correct additional §112, second paragraph, issues and to recite certain claim elements with more clarity.

Allowable Subject Matter

On page 9 of the Office Action, the Examiner indicated that Claims 7 and 24-25 are objected to but would be allowable if rewritten in independent form. Applicant has rewritten claims 7 and 24 in independent form as new claims 35 and 36. Accordingly, it is submitted that claims 35 and 36 are currently in condition for allowance.

Claims 25, 11-13, and 18 were indicated as being allowable. Applicant thanks the Examiner for the indication of allowability, but is not rewriting these claims at this time.

Rejection of under 35 U.S.C. §§102 and 103

On page 3 of the Office Action, the Examiner rejected claims 1-6, 8-10, 14-17, 19-23, 26-30 and 34 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2006/0031660 to Master. On page 8 of the Office Action, the Examiner has rejected claims 31-33 under 35 U.S.C. §103(a) as being unpatentable over Master in view of U.S. Patent Application Publication No. 2006/0259878 to Killian.

The Present Invention

In its broadest sense, the claimed invention relates to steps performed *during* the design of a microprocessor architecture. When the design is *complete*, the resulting *final* microprocessor architecture is optimized for the code that will run on it. A key aspect of this invention is that the data and control flows within a particular input program are automatically analyzed during the design of the microprocessor architecture and results of the analysis are used to create a hardware description of the microprocessor architecture that is synthesizable into a physical hardware embodiment of the microprocessor architecture.

Candidate architectures are generated and refined *during* the design process so as to allow an optimized final architecture to be implemented once the design process is *complete*.

The Cited Prior Art Does Not Anticipate the Claimed Invention

The MPEP and case law provide the following definition of anticipation for the purposes of 35 U.S.C. §102:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) M.P.E.P. §2131.

The Examiner Has Not Established a *Prima Facie* Case of Anticipation

Master's discloses what is basically a coarse grain FPGA-style architecture. This means that the *completed* hardware design (i.e., the connections between elements) may be configured to provide direct connectivity between the units as needed. However, it is the connections themselves that are modified by selective control *after* the hardware design has been completed; the hardware configuration itself does not change, it is merely selectively configurable to allow different connection possibilities. The elements that make up this selectively configurable architecture are set up and THEN changes are decided upon to the configuration, within the limits of the hardware architecture that was designed. The hardware in Masters is actually fixed; the connections possible with this fixed hardware can be soft-reconfigured like an FPGA, and nothing in Masters teaches or suggests the automatic analysis of the architecture *during the design* of the architecture and using results of the analysis to create a hardware description of the architecture that is synthesizable into a physical hardware embodiment of said microprocessor architecture. Further, nothing in Masters teaches or suggests the generation of one or more "candidate architectures" based on the automatic analysis of a particular input program and then selecting a final architecture based on the candidate architectures.

The present claimed invention recites each of these elements neither taught nor suggested by Masters. Claim 1 specifically recites the automatic analysis of the architecture *during the design* of the architecture and using results of the analysis to create a hardware description of the architecture that is synthesizable into a physical hardware embodiment of the microprocessor architecture. Claim 2 specifically recites the generation of one or more candidate architectures based on the automatic analysis of a particular input program and then selecting a final architecture based on the candidate architectures. Additional dependent claims add further limitations neither taught nor suggested by Masters. Accordingly, all of the claims patentably define over Masters and are in condition for allowance.

The addition of Killian does not teach or suggest the claimed limitations missing from Masters. Accordingly, for the reasons set forth above, the claimed invention patentably defines over both Masters and Killian, taken alone or in combination. Accordingly, the present claimed invention is non-obvious with respect to both Masters and Killian.

The Examiner is respectfully requested to reconsider and withdraw the rejection of the claims under 35 USC §§ 102 and 103.

Conclusion

The present invention is not taught or suggested by the prior art. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims. An early Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees associated with this communication to applicant's Deposit Account No. 19-5425.

Respectfully submitted

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Date

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